UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 0 2 2004

MEMORANDUM

SUBJECT: Science Review of product performance studies for registration of B2E-03, EPA reg. No. 75318-E, containing 1.8 % (S)-Methoprene (CAS# 65733-16-6) as active ingredient.
DP Barcode: 301700 Decision No. 3394554

FROM: Clara Fuentes, Ph.D., Biologist
Biochemical Pesticides Branch
Biopesticides & Pollution Prevention Division (7511C)

THROUGH Angela Gonzales, Biologist
Biochemical Pesticides Branch
Biopesticides & Pollution Prevention Division (7511C)

TO: Mari Duggard, Regulatory Action Leader
Biochemical Pesticides Branch
Biopesticides & Pollution Prevention Division (7511C)

ACTION REQUESTED

B2E Biotech LLC. submitted 4 product performance studies designed to evaluate efficacy of B2E-03, containing 1.8 % (S)-Methoprene, against mosquitoes in support of product registration.

RECOMMENDATIONS AND CONCLUSIONS

1. Efficacy studies for product B2E-03 must be conducted using the end use product according to use directions as specified on the product label.

2. The methods described in the submitted studies are unlikely to support application rates as stated on the product label.

STUDY SUMMARY

MRID 461155-05 **Supplemental**

This study is a data summary from other studies (MRIDs 461155-06, 461155-07 and 461155-08) to support registration of B2E-03, containing 1.8 % (S)-Methoprene active ingredient. Conclusions derived in part from these studies (MRIDs 461155-06, 461155-07 and 461155-08) do not support product label recommendations.

MRID 461155-06 and MRID 461155-07 are **Unacceptable.**

Conclusions are derived from data submitted for registration of another product, B2E-02, which is a wettable powder, containing 39.2 a.i. Neither active ingredient concentration nor mode of application of B2E-02 matches those stated on product label for B2E-03, which is a water soluble pouch, containing 1.8 % a.i.

MRID 461155-08 is **Unacceptable.**

It is unclear what is the application rate of the test material. It is not possible to compare the study application rates to the application rate given on the product label, which specifies 1 to 2 pouches/quarter acre of water, but does not provides the pouch weight. The product is misidentified as B2E-04 in table 1 of MRID 461155-08. The label states that the concentration of active ingredient for B2E-03 is 1.8%, while page 5 of MRID 461155-08 states it is 40%.

BACKGROUND AND REVIEWER COMMENTS

Studies MRIDs 461155-05 to 08 are unacceptable in support of registration for product B2E-03, containing 1.8 % (S)-Methoprene.

DATA EVALUATION RECORD

ISOPROPYL (2E,4E,7S)-11-METHOXY-3,7,11-TRIMETHYL-2,4-DODECADIENOATE (B2E-03)

STUDY TYPE: Product Performance, OPPTS 810.3400

MRID 46115506

Prepared for

Biopesticides and Pollution Prevention Division
Office of Pesticide Programs
U.S. Environmental Protection Agency
1801 Bell Street
Arlington, VA 22202

Prepared by

Toxicology and Hazard Assessment Group
Life Sciences Division
Oak Ridge National Laboratory
Oak Ridge, TN 37830
Work Assignment 04-69

Primary Reviewer:
Eric B. Lewis, M.S.

Signature: Eric B. Lewis
Date: SEP 29 2004

Secondary Reviewers:
Anthony Q. Armstrong, M.S.

Signature:
Date: SEP 29 2004

Robert H. Ross, M.S., Group Leader

Signature: Robert H. Ross
Date: SEP 29 2004

Quality Assurance:
Lee Ann Wilson, M.A.

Signature: L. A. Wilson
Date: SEP 29 2004

Disclaimer

This review may have been altered subsequent to the contractor's signatures above.

Oak Ridge National Laboratory, managed by UT-Battelle, LLC, for the U.S. Department of Energy under contract number DE-AC05-00OR22725

DATA EVALUATION RECORD

EPA Secondary Reviewer:

STUDY TYPE:	Product Performance. OPPTS 810.3400
MRID NO:	46115506
DP BARCODE:	75318-E
TEST MATERIAL:	B2E-02
STUDY NO:	S09-03-0023B
SPONSOR:	B2E Biotech LLC, 500 Mamaroneck Ave., Harrison, NY 10528
TESTING FACILITY:	Rice Research and Extension Center, University of Arkansas, Stuttgart, AR
TITLE OF REPORT:	Assessment of B2E-02 with *Psorophora columbiae* Larvae
AUTHORS:	Meisch, M.V., and D.A. Dame
STUDY COMPLETED:	August 27, 2003
CONFIDENTIALITY CLAIMS:	None
GOOD LABORATORY PRACTICE	A signed GLP statement was included. The study was stated to meet GLP requirements with the following exceptions: there was no QA audit; the stability, characterization, identity, and verification of the test substance concentration as received and tested were the responsibility of the study sponsor; no analysis was made of the water solution prepared for application; signatures of individual research assistants were not obtained; and B2E Biotech will archive all signed reports and protocols.
STUDY SUMMARY:	Results of a study using B2E-02 were provided to support registration of B2E-03, a similar product. B2E-02 (a.i., 40% S-methoprene) was applied at a rate equivalent to 0.066 lbs of product/A to experimental flooded rice plots. Bioassay containers of late third/early fourth stage *Psorophora columbiae* mosquito larvae were installed shortly after treatment and monitored for mortality and adult emergence for 14 days. B2E-02 completely inhibited emergence in larvae introduced on day 0, compared to 2% for controls. At day 7, inhibition of emergence averaged 30% compared to about 2% in controls, and at day 14 averaged 33%, compared to about 7% in controls.
CLASSIFICATION:	Unacceptable for B2E-03

Reviewer's note: This study, MRID 46115506, is identical to MRID 46115606, which was submitted to support registration of B2E-02. The registrant states on p. 5 of MRID 46115505 that MRID 46115606 for B2E-02 is being used to support the submission for B2E-03 "because it demonstrates the IE efficacy of the same 40% wettable powder (B2E-06) used in B2E-03 at 12 g a.i./A." The DER for MRID 46115606 is reproduced below. From the information presented for B2E-02 below and that given on the B2E-03 product label, it is unclear to the reviewer if the application rate used in the study for B2E-02 would support registration of B2E-03, which contains only 1.8% (S)-methoprene. The reviewer therefore believes this information is unacceptable to support registration of B2E-03.

Test Material

The test material was B2E-02 (a.i., 40% S-methoprene) a wettable powder formulation.

Test Methods

Six 625 ft^2 experimental plots were established in Stuttgart, AR and planted in rice. Each plot consisted of the rice pan surrounded by an open perimeter ditch (about 2 ft wide) and bordered by a levee also planted in rice. Over an approximate three-month period, three plots received B2E-02 treatment, and three served as untreated controls. The plots were initially flooded so the pan was covered with 2 to 4 inches of water, and the ditches with 8 to 10 inches of water. At study start (June, 2003) the rice was 10 to 14 inches high and uniformly dense in the pan. At the time of the last replicates (mid to late July), the rice was 16 to 20 inches high. During the test, the plots were flooded to the original water levels with untreated water weekly, as needed.

B2E-02 wettable powder (0.43 g/plot) was suspended in 2 L of tap water and uniformly sprayed on each plot using a pressurized sprayer. The application rate was 0.066 lbs of product/A (12 g a.i./A) (29 ppb). Two screened floating bioassay containers, each containing 10 locally-collected late third/early fourth stage *Psorophora columbiae* larvae, were placed in the ditch of each plot shortly after treatment, and weekly thereafter for two weeks. Each container was monitored daily for mortality and adult emergence, at which time adults and pupal exuviae were removed. Monitoring continued until all individuals had emerged or died.

Results Summary

Results are summarized in Table 1. B2E-02 completely inhibited emergence in all three replicates introduced on day 0, compared to 2% for controls. For larvae introduced on day 7 post-treatment, inhibition of emergence averaged 30%, compared to about 2% in controls. For larvae introduced at day 14, inhibition of emergence averaged 33%, compared to about 8% for controls.

TABLE 1. Percent inhibition of larval emergence (IE) of *Ps. columbiae* by B2E-02 in flooded rice plots				
Treatment	Replicate	Percent inhibition of emergence of larvae installed on day		
		0	7	14
B2E-02	1	100	35	40[a]
	2	100	10	25
	3	100	45	35
	Mean	100	30	33
Control	1	0	5	5
	2	0	0	10
	3	5	0	5
	Mean	1.7	1.7	6.7

[a]Based on one container; the other failed in service
Data from [redacted] MRID 46115606

Study Authors' Conclusions

The study authors concluded that the single brood application rate tested was highly effective in inhibiting emergence of the rice field flood water mosquito *Ps. columbiae* under summer conditions.

Reviewer's Conclusions

B2E-02 applied at a rate equivalent to 0.066 lbs of product/A was efficacious against *Ps. columbiae* installed on the day of treatment. In larvae installed afterward, it failed to reduce the population by the 95% minimum recommended in OPPTS 810.3400. Since the product label claims to control only a single brood, the reviewer would tend to agree with the study authors' conclusion. The application rate for B2E-02 in this study was 0.066 lbs/A, calculated by the reviewer to be 1.056 oz of product/A (0.41 oz of a.i./A, based on 39.2% a.i. as given on the product label). The application rate specified for mosquitoes on the product label is 0.21 to 0.84 oz of B2E-02 (the product)/A. The reviewer assumes this should be 0.21 to 0.84 oz of a.i./A. If so, the application rate used in this study is within that recommended on the label. MRID 46115606 states that the (S)-methoprene concentration of the product is 40%; the label states it is 39.2%. MRID 46115606 states that B2E-02 is a wettable powder; the submitted label is for a water soluble pouch formulation.

DATA EVALUATION RECORD

ISOPROPYL (2E,4E,7S)-11-METHOXY-3,7,11-TRIMETHYL-2,4-DODECADIENOATE (B2E-03)

STUDY TYPE: Product Performance, OPPTS 810.3400

MRID 46115507

Prepared for

Biopesticides and Pollution Prevention Division
Office of Pesticide Programs
U.S. Environmental Protection Agency
1801 Bell Street
Arlington, VA 22202

Prepared by

Toxicology and Hazard Assessment Group
Life Sciences Division
Oak Ridge National Laboratory
Oak Ridge, TN 37830
Work Assignment 04-69

Primary Reviewer:
Eric B. Lewis, M.S.

Signature: Eric B. Lewis
Date: SEP 29 2004

Secondary Reviewers:
Anthony Q. Armstrong, M.S.

Signature:
Date: SEP 29 2004

Robert H. Ross, M.S., Group Leader

Signature: Robert H. Ross
Date: SEP 29 2004

Quality Assurance:
Lee Ann Wilson, M.A.

Signature: L. A. Wilson
Date: SEP 29 2004

Disclaimer

This review may have been altered subsequent to the contractor's signatures above.

Oak Ridge National Laboratory, managed by UT-Battelle, LLC, for the U.S. Department of Energy under contract number DE-AC05-00OR22725

DATA EVALUATION RECORD

EPA Secondary Reviewer:

STUDY TYPE:	Product Performance, OPPTS 810.3400
MRID NO:	46115507
DP BARCODE:	75318-E
TEST MATERIAL:	B2E-02
STUDY NO:	DTG09/03/0023C
SPONSOR:	B2E Biotech LLC, 500 Mamaroneck Ave., Harrison, NY 10528
TESTING FACILITY:	John A. Mulrennan, Sr. Public Health Entomology Research & Education Center, Florida Agricultural and Mechanical University, 4000 Frankford Ave., Panama City, FL 32405-1933
TITLE OF REPORT:	Assessment of B2E-02 Against *Ochlerotatus taeniorhynchus* in Small Plot Field Studies, 2003
AUTHORS:	Floore, T.G., J. Petersen, K.R. Schaffer, and D. A. Dame
STUDY COMPLETED:	September 10, 2003
CONFIDENTIALITY CLAIMS:	None
GOOD LABORATORY PRACTICE	A signed GLP statement was included. The study was stated to meet GLP requirements with the following exceptions: there was no QA audit; the stability, characterization, identity, and verification of the test substance concentration as received and tested were the responsibility of the study sponsor; no analysis was made of the water solution prepared for application; signatures of individual research assistants were not obtained; and B2E Biotech will archive all signed reports and protocols.
STUDY SUMMARY:	Results of a study using B2E-02 were provided to support registration of B2E-03, a similar product. B2E-02 (a.i., 40% (S)-methoprene) was applied at rates equivalent to 6 or 12 g of active ingredient/acre to small test plots containing emergent grasses. After treatment, *Ochlerotatus taeniorhynchus* mosquito larvae were collected from the plots and held in aerated salt water for up to 14 days. Both B2E-02 application rates were effective at one day post-treatment, with a 100% inhibition of adult emergence. The 6 g/A rate was less effective 3 and 7 days after treatment (51% and 60% inhibition of emergence, respectively), although still significantly different from controls. The 12 g/A rate continued to be effective up to 14 days post-treatment,

with 100% and 91% inhibition of emergence in two of the three plots.

CLASSIFICATION: Unacceptable for B2E-03

Reviewer's note: This study, MRID 46115507, is identical to MRID 46115607, which was submitted to support registration of B2E-02. The registrant states on p. 5 of MRID 46115505 that MRID 46115607 for B2E-02 is being used to support the submission for B2E-03 "because it demonstrates the IE efficacy of the same 40% wettable powder (B2E-06) used in B2E-03 at 12 g a.i./A." The DER for MRID 46115607 is reproduced below. From the information presented for B2E-02 below and that given on the B2E-03 product label, it is unclear to the reviewer if the application rate used in the study for B2E-02 would support registration of B2E-03, which contains only 1.8% (S)-methoprene. The reviewer therefore believes this information is unacceptable to support registration of B2E-03.

Test Material

The test material was B2E-02 (a.i., 40% S-methoprene) a wettable powder formulation.

Test Methods

Approximately 1000 laboratory-reared late second and early third instar *Ochlerotatus taeniorhynchus* mosquito larvae were added to each of nine field test plots. The water surface area of each plot was approximately 8 ft^2, with a depth of approximately 6 inches and a salinity of 3 to 5%. Emergent grasses were present in each plot. In the first test, three plots were treated with B2E-02 at a rate of 12 g a.i./A (20 ppb), and three were untreated controls. In a second test conducted a few weeks later, three additional plots were treated with B2E-02 at 6 g a.i./A (10 ppb). After treatment, approximately 100 pupae were collected from each plot and held in styrofoam cups containing 30 mL of aerated salt water (3%). The cups were set on an enclosed porch and the pupae were allowed to complete development or die. Emergence in cups from the first test was evaluated at 1, 7, and 14 days post-treatment; emergence in cups from the second test was evaluated at 1, 3, and 7 days post-treatment.

After emergence was complete the number of cast pupae skins, dead pupae, partially emerged adults, and dead adults was counted, and the percent emergence inhibition was calculated using the formula

$$\%EI = 100 - \left(\frac{CS - DA}{CS + PE + DP} \times 100 \right)$$

where CS = cast pupae skins, DA = dead adults, PE = partially emerged adults, and DP = dead pupae. Data were analyzed using ANOVA with Duncan's multiple range test and Fisher's least significant difference means (t test) on the means following an ARCSIN transformation on the percent data. The level of significance was $p \leq 0.05$.

Results Summary

Results are summarized in Table 1. Both B2E-02 application rates were effective at one day post-treatment, with a 100% inhibition of emergence. The 6 g a.i./A rate was less effective 3 and 7 days after treatment (51% and 60% inhibition of emergence, respectively), although still significantly different from controls. The 12 g a.i./A rate continued to be effective up to 14 days post-treatment, with 100% and 91% inhibition of emergence in two of the three plots.

Study Authors' Conclusions

The study authors concluded that both application rates of B2E-02 were effective in inhibiting *O. taeniorhynchus* adult emergence at one day post-treatment, and the 12 g a.i./A rate was effective up to 14 days post-treatment.

Reviewer's Conclusions

The reviewer agrees that both treatment rates were effective against larvae at one day post-treatment, and that the 12 g a.i./A rate was effective at 7 days post-treatment. This would likely meet the product label claim of control for a single brood. At 14 days post-treatment the 12 g a.i./A rate averaged only 66% inhibition of emergence, below the 95% minimum control recommended in OPPTS 810.3400. The reviewer calculates that the 6 g a.i./A application rate used in this study was equivalent to 0.52 oz of product/A (0.20 oz of a.i./A, based on 39.2% a.i. as given on the product label). The 12 g a.i./A rate was equivalent to 1.04 oz of product/A (0.41 oz of a.i./A, based on 39.2% a.i.). The application rate specified for mosquitoes on the product label is 0.21 to 0.84 oz of B2E-02 (the product)/A. The reviewer assumes this should be 0.21 to 0.84 oz of a.i./A. If so, the application rates used in this study are acceptable. MRID 46115607 states that the (S)-methoprene concentration of the product is 40%; the label states it is 39.2%. MRID 46115607 states that B2E-02 is a wettable powder; the submitted label is for a water soluble pouch formulation.

TABLE 1. Efficacy of B2E-02 against *O. taeniorhynchus* in small field plots.

Treatment	Days post-treatment	No. pupae	Dead pupae	Partially emerged adults	Dead adults	Cast pupae skins	% Inhibition of emergence
Test 1							
Control[a]	1	119	17	1	0	101	15.13
Control[a]	1	112	4	3	0	105	6.25
Control[a]	1	106	0	3	3	100	5.83
12 g/A[b]	1[a]	103	103	0	0	0	100.00
12 g/A[b]	1[a]	101	101	0	0	0	100.00
12 g/A[b]	1[a]	116	116	0	0	0	100.00
Control[a]	7	121	1	0	0	120	0.83
Control[a]	7	120	2	0	0	118	1.67
Control[a]	7	120	2	0	0	118	1.67
12 g/A[b]	7[a]	121	119	0	0	2	98.35
12 g/A[b]	7[a]	116	116	0	0	0	100.00
12 g/A[b]	7[a]	113	113	0	0	0	100.00
Control[a]	14	106	1	0	0	105	0.94
Control[a]	14	109	12	0	0	97	11.01
Control[a]	14	102	5	0	0	97	4.90
12 g/A[b]	14[b]	110	89	3	4	14	90.57
12 g/A[b]	14[b]	117	117	0	0	0	100.00
12 g/A[b]	14[b]	118	5	3	0	110	6.78
Test 2							
Control[a]	1	123	11	0	0	112	8.94
Control[a]	1	121	1	2	0	118	2.48
Control[a]	1	117	3	2	0	112	4.27
6 g/A[b]	1[a]	121	121	0	0	0	100.00
6 g/A[b]	1[a]	120	120	0	0	0	100.00
6 g/A[b]	1[a]	120	120	0	0	0	100.00
Control[a]	3	122	6	3	1	114	6.61
Control[a]	3	128	6	2	1	119	7.09
6 g/A[b]	3[b]	119	42	8	15	54	62.50
6 g/A[b]	3[b]	122	29	16	3	74	40.34
Control[a]	7	124	3	0	0	124	0.00
Control[a]	7	107	0	0	0	107	0.00
Control[a]	7	110	0	0	1	109	0.92
6 g/A[b]	7[a]	114	1	0	0	113	0.88
6 g/A[b]	7[a]	103	93	0	0	10	90.29
6 g/A[b]	7[a]	100	33	0	0	67	33.00

Within each test, treatments followed by different letters are significantly different ($p \leq 0.05$), and post-treatment days followed by different letters are significantly different ($p \leq 0.05$)

Data from pp. 7-8, MRID 46115507

DATA EVALUATION RECORD

ISOPROPYL (2E,4E,7S)-11-METHOXY-3,7,11-TRIMETHYL-2,4-DODECADIENOATE (B2E-03)

STUDY TYPE: Product Performance, OPPTS 810.3400

MRID 46115508

Prepared for

Biopesticides and Pollution Prevention Division
Office of Pesticide Programs
U.S. Environmental Protection Agency
1801 Bell Street
Arlington, VA 22202

Prepared by

Toxicology and Hazard Assessment Group
Life Sciences Division
Oak Ridge National Laboratory
Oak Ridge, TN 37830
Work Assignment 04-69

Primary Reviewer:
Eric B. Lewis, M.S.

Eric B. Lewis
Signature: _____
Date: SEP 29 2004

Secondary Reviewers:
Anthony Q. Armstrong, M.S.

Signature: _____
Date: SEP 29 2004

Robert H. Ross, M.S., Group Leader

Robert H. Ross
Signature: _____
Date: SEP 29 2004

Quality Assurance:
Lee Ann Wilson, M.A.

L. A. Wilson
Signature: _____
Date: SEP 29 2004

Disclaimer

This review may have been altered subsequent to the contractor's signatures above.

Oak Ridge National Laboratory, managed by UT-Battelle, LLC, for the U.S. Department of Energy under contract number DE-AC05-00OR22725

DATA EVALUATION RECORD

EPA Secondary Reviewer:

STUDY TYPE:	Product Performance, OPPTS 810.3400
MRID NO:	46115508
DP BARCODE:	75318-E
TEST MATERIAL:	B2E-03
STUDY NO:	S09-03-0033D
SPONSOR:	B2E Biotech LLC, 500 Mamaroneck Ave., Harrison, NY 10528
TESTING FACILITY:	Rice Research and Extension Center, University of Arkansas, Stuttgart, AR
TITLE OF REPORT:	Assessment of B2E-03 with *Psorophora columbiae* Larvae
AUTHORS:	Meisch, M.V., and D.A. Dame
STUDY COMPLETED:	August 27, 2003
CONFIDENTIALITY CLAIMS:	None
GOOD LABORATORY PRACTICE	A signed GLP statement was included. The study met GLP requirements with the following exceptions: there was no QA audit; the stability, characterization, identity, and verification of the test substance concentration as received and tested were the responsibility of the study sponsor; no analysis was made of the water solution prepared for application; signatures of individual research assistants were not obtained; and B2E Biotech will archive all signed reports and protocols.
STUDY SUMMARY:	One B2E-03 (a.i., (S)-methoprene, % a.i. unclear) water soluble pouch was placed in experimental rice plots seven days prior to flooding the plots. The pouches were formulated to provide an application rate of 12 or 24 g a.i./acre. After flooding, bioassay cages containing *Psorophora columbiae* larvae were placed in plots and monitored daily for mortality and adult emergence. The 12 g a.i./A treatment inhibited emergence by a mean of 70%, 50%, and 45% for larvae installed on days 0, 7, and 14, respectively. The 24 g a.i./A treatment inhibited emergence by a mean of 100%, 72%, and 52% for larvae installed on days 0, 7, and 14, respectively. Emergence of the untreated controls was inhibited by a mean of 1.7%, 1.7%, and 6.7% on days 0, 7, and 14, respectively.
CLASSIFICATION:	Unacceptable

Test Material

The test material was B2E-03 (a.i., S-methoprene), a water soluble pouch formulation. It is unclear what the application rate of test material was for this test. The pouches were formulated by the sponsor to apply 12 or 24 g of product, for application rates of 1.84 lbs/A (29 ppb) and 3.68 lbs/A (58 ppb), respectively.

Test Methods

Nine 625 ft^2 experimental plots were established in Stuttgart, AR and planted in rice. Each plot consisted of a rice pan surrounded by an open perimeter ditch (about 2 ft wide) and bordered by a levee also planted in rice. Paragraph 2, p. 5 of MRID 46115508 states that the application rates were 12 and 24 g of active ingredient per acre, while paragraph 5 of MRID 46115508 states the application rates were 12 and 24 g of product per acre. The reviewer assumes the application rates are in terms of the active ingredient. Over an approximate three-month period, three plots received the 12 g a.i./A treatment, three plots received the 24 g a.i./A treatment, and three plots served as untreated controls. Prior to flooding, a single B2E-03 pouch was placed in the dry center of the each treatment plot and held in place by a small stone. The pouches were exposed for 7 days, after which the plots were flooded. During the pre-flood exposure period, one replicate of the 12 g a.i./A treatment received a natural one-inch rain event. The plots were initially flooded so the pan was covered with 2 to 4 inches of water, and the ditches with 8 to 10 inches of water. During the test, the plots were flooded weekly, as needed, to maintain the original water level. At study start (June, 2003) the rice was 10 to 14 inches high and uniformly dense in the pan. At the time of the last replicates (mid to late July), the rice was 16 to 20 inches high.

Two screened floating bioassay containers, each containing 10 locally-collected late third/early fourth stage *Psorophora columbiae* larvae, were placed in the ditch of each plot shortly after treatment, and weekly thereafter for two weeks. Each container was monitored daily for mortality and adult emergence, at which time adults and pupal exuviae were removed. Monitoring continued until all individuals had emerged or died. No statistical analysis of the results was conducted.

Results Summary

Results are summarized in Table 1. The 12 g a.i./A treatment inhibited emergence by a mean of 70%, 50%, and 45% for larvae installed on days 0, 7, and 14, respectively. The 24 g a.i./A treatment inhibited emergence by a mean of 100%, 72%, and 52% for larvae installed on days 0, 7, and 14, respectively. Emergence of the untreated controls was inhibited by a mean of 1.7%, 1.7%, and 6.7% on days 0, 7, and 14, respectively.

Study Authors' Conclusions

The study authors concluded that the 12 g a.i./A treatment provided excellent initial control of *Ps. columbiae* when it was not subjected to rainfall during the pre-flood period, but was not

effective at 7 days post-flood. The study authors also concluded that the 24 g a.i./A treatment provided excellent initial control of *Ps. columbiae*, even when subjected to a one-inch rainfall during the pre-flood period, and provided marginal control 7 days post-flood.

Reviewer's Conclusions

The reviewer agrees with the study authors' conclusion that both B2E-03 formulations were efficacious against *Ps. columbiae* installed on the day of treatment. Without the pre-flood rainfall that occurred in one replicate of the 12 g a.i./A treatment, the mean inhibition of emergence for larvae installed on day 0 would likely have been 100%. Both formulations were ineffective at 7 and 14 days post-treatment, as they failed to reduce the population by the 95% minimum recommended in OPPTS 810.3400. The product label does not specify a re-treatment interval. It was not possible to compare either of the study application rates to the application rate given on the product label, which specifies 1 to 2 pouches/quarter acre of water for *Psorophora*, but does not provide the pouch weight. The label gives the amount of active ingredient as 1.8%, while p. 5 of MRID 46115508 states it is 40%. The reviewer notes that the product is misidentified as B2E-04 in Table 1 of MRID 46115508.

TABLE 1. Percent inhibition of larval emergence (IE) of *Ps. columbiae* by B2E-03 in flooded rice plots

Treatment	Replicate	Percent inhibition of emergence of larvae installed on Day		
		0	7	14
B2E-03 12g a.i./A	1	10[a]	50	50
	2	100	45	25
	3	100	55	60[b]
	Mean	70	50	45
B2E-03 24 g a.i./A	1	100	85	60
	2	100	65	35
	3	100	65	60
	Mean	100	72	52
Control	1	0	5	5
	2	0	0	10
	3	5	0	5
	Mean	1.7	1.7	6.7

[a] A one-inch rainfall occurred during the pre-flood week.
[b] Based on one container; the other was damaged during the test
Data from p. 7, MRID 46115508

13544

R149055

Chemical: S-Methoprene

PC Code:
105402

HED File Code: 41600 BPPD Other
Memo Date: 11/2/2004
File ID: DPD301700
Accession #: 412-07-0183

HED Records Reference Center
7/23/2007